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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.                 | CONFIRMATION NO.       |
|---|-------------|----------------------|-------------------------------------|------------------------|
| 10/722,936  | 11/26/2003  | Young-Yong Kim       | 678-1226                            | 9637                   |
| 66547 7590 12/03/2007<br>THE FARRELL LAW FIRM, P.C.<br>333 EARLE OVINGTON BOULEVARD<br>SUITE 701<br>UNIONDALE, NY 11553 |             |                      | EXAMINER<br>VIANA DI PRISCO, GERMAN |                        |
|   |             |                      | ART UNIT<br>2617                    | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>12/03/2007             | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/722,936

Applicant(s)

KIM ET AL.

Examiner

German Viana Di Prisco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 is/are allowed.
- 6) ☒ Claim(s) 1,3 and 4 is/are rejected.
- 7) ☒ Claim(s) 2 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura et al. (United States Patent Application Publication No.: US 2002/0126675 A1) in view of Chen (United States Patent Application Publication No.: US 2007/0076723 A1) and further in view of Hoglund et al (United States Patent Application Publication No.: US 2004/0152422 A1)

Consider claims 1 and 4, Yoshimura et al. clearly show and disclose a traffic scheduling apparatus and method for a base station in a mobile communication system, for transmitting real-time traffic and non-real-time traffic having different QoS (Quality of Service) to a particular mobile station, the apparatus comprising a delay adjuster (classifying part 301 in figure 3) for determining transmission order so that the real-time traffic is transmitted preferentially over the non-real-time traffic (paragraphs [0008] and [0059]); a transmission buffer (IP queue 302 in figure 3) for receiving and storing the real-time traffic and non-real-time traffic output in the transmission order determined by the delay adjuster (paragraph [0060]).

However, Yoshimura et al. do not specifically teach a rate adjuster for calculating assigned power of a time slot serving as a transmission unit for transmitting a predetermined amount of traffic stored in the transmission buffer, changing the transmission order of the traffic according to available time slot power, and packing the traffic in the time slot according to the changed transmission order.

In the same field of endeavor Chen discloses calculating assigned power (the base station considers the amount of transmit power needed to satisfy the forward link

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demands, paragraphs [0042] and [0043]) of a time slot (transmission intervals or frames, paragraph [0036] and figure 5) serving as a transmission unit for transmitting a predetermined amount of traffic stored in the transmission buffer (paragraphs [0071] and [0072]), changing the transmission order of the traffic according to available time slot power, and packing the traffic in the time slot according to the changed transmission order (paragraphs [0084] and [0089]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to calculate assigned power of a time slot serving as a transmission unit for transmitting a predetermined amount of traffic stored in the transmission buffer, change the transmission order of the traffic according to available time slot power, and pack the traffic in the time slot according to the changed transmission order as disclosed by Chen in the system of Yoshimura et al. in order to efficiently schedule resources and accommodate different types of services.

Even though Yoshimura et al as modified by Chen disclose classifying IP packets into different queues on the basis of the Quality of Service requirements (paragraph [0059]), Yoshimura et al as modified by Chen do not specifically disclose that the delay adjuster determines transmission order based on a ratio of real-time traffic to total traffic arrived at each session. But it is well known in the art that real-time traffic is delay-sensitive and resources are allocated in order to minimize such delay. Consider Hoglund et al, this reference discloses apportioning transmission resources based on the ratio of expected real-time traffic to the total traffic that can be handled (paragraph [0027]).

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Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apportion resources based on a ratio of real-time traffic as disclosed by Hoglund et al in the apparatus of Yoshimura et al as modified by Chen in order to efficiently schedule resources and accommodate different types of services.

### ***Allowable Subject Matter***

5. Claim 2 as applied to claim 1 above, claim 3 as applied to claim 2 and claim 5 as applied to claim 4 above are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. Claim 6 is allowed.

### ***Response to Arguments***

7. Applicant's arguments with respect to claim 1 and 4 have been considered but are moot in view of the new grounds of rejection.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Viana Di Prisco whose telephone number is (571) 270-1781. The examiner can normally be reached on Monday through Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*German Viana Di Prisco*

October 1, 2007



KENNETH VANDERPUYE  
SUPERVISORY PATENT EXAMINER